CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 85-50

WASTE DISCHARGE REQUIREMENTS FOR:

NEC ELECTRONICS INC.,
MOUNTAIN VIEW, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. NEC Electronics Inc., (hereinafter called the discharger) occupies approximately 1 acre of land in the City of Mountain View, Santa Clara County (See Site Map, Attachment 1). The discharger is principally involved in electrical semi-conductor manufacturing. The discharger has reported a total of two underground tanks and sumps on-site used to store and/or treat raw and waste product hazardous materials. The hazardous materials used on-site, either currently or historically, may have included trichloroethene (TCE), 1,1,1-trichloroethane (TCA), xylene, isopropyl alcohol (IPA), and other organic solvents.

2. Subsurface investigations were initiated by the discharger in September 1982. The investigations revealed significant levels of organic chemical pollution (primarily TCE, freon, and trichlorobenzene) in both soil and groundwater, caused primarily by leaking tanks, sumps or associated pipelines.

3. Subsequent to the initial investigation, the discharger has undertaken follow-up investigations to further define the extent of pollution. A total of eight groundwater monitoring wells were installed between September 1982 - October 1984 to define the extent of pollution. The majority of the monitoring wells have been installed on-site (7), however the discharger's groundwater pollution plume has merged with other dischargers' pollution. Significant levels of pollution (greater than 100 ppm of TCE) have been detected in one off-site downgradient monitoring well installed by another discharger. The merged groundwater pollution plume has not been adequately defined.

4. Remedial mesures implemented by the discharger to date include the evacuation of 86 cubic yards of soil and both of the underground tanks and sumps used to store and/or treat hazardous materials. No groundwater extraction wells have been installed to date.

5. The high levels of pollution present in the merged plume are of particular concern due to the close proximity (less than 1/2 mile) of one of the City of
Mountain View's domestic water supply wells, and a number of private wells. No organic solvent pollution has been detected in the City of Mountain View's wells, which are sampled monthly by the City.

6. Due to the close proximity of the discharger to four other dischargers (Fairchild Camera & Instrument Corporation, Intel Corporation, Raytheon Company, and Siltec Corporation) in the area, Regional Board

staff encouraged the five dischargers to coordinate their individual investigations in order to minimize duplication of effort. In addition, it is very important for the five dischargers to coordinate their cleanup efforts because one discharger's cleanup program may adversely impact another discharger's cleanup program. The dischargers met with the Board's Executive Officer on September 14, 1984 to inform staff that they had agreed to voluntarily work together to solve a common problem.

7. The discharger, in conjunction with Fairchild Camera & Instrument Corporation, Intel Corporation, Raytheon Company, and Siltec Corporation have undertaken a limited joint program of soil borings and groundwater monitoring well installation and sampling. This program commenced on March 20, 1985 and should provide additional information necessary to better define the extent of pollution. Additonal joint investigations on the part of some or all of the aboved named dischargers may be forthcoming.

8. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for South San Francisco Bay, and contiguous surface waters, and groundwaters.

9. The beneficial uses of South San Francisco Bay, contiguous water bodies, and groundwaters are:

   - Municipal Water Supply
   - Domestic Water Supply
   - Water Contact recreation
   - Non-contact water recreation
   - Wildlife Habitat
   - Estuarine Habitat
   - Warm and Cold Fresh Water Habitat
   - Fish migration
   - Industrial service and process supply
   - Navigation
   - Agricultural Water Supply

10. Guidance has been provided to the discharger on the investigation and cleanup of soil and groundwater pollution cases. This guidance is contained in the document entitled "Regional Board Staff Guidelines With Respect To Establishing A Procedure To Identify Water Quality Objectives For Hazardous Material Site Clean-up". Additional guidance is provided in the report entitled "Regional Board Consideration of Groundwater Contamination Cases" dated March 6, 1984. Based on the Basin Plan and on the non-degradation policy of the State Water Resources Control Board (SWRCB), these guidelines state that currently unpolluted areas should remain so, and that polluted areas should be restored to pre-pollution quality, unless the Board determines that some water quality degradation will not unreasonably affect beneficial uses and is consistent with maximum benefit to the people of the State. The initial requirement for groundwater pollution cases is to fully characterize the pollution plume's degree and extent.

11. The Board has notified all interested agencies and persons of its intent to prescribe waste discharge requirements for this discharger.

12. The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

13. This project constitutes a minor modification to land and such activity is thereby exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Section 15304, Title 14, of the California Administrative Code.

IT IS HEREBY ORDERED, that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade the beneficial uses of the groundwaters of the State is prohibited.

2. The discharge of wastes or hazardous materials through surface runoff or through subsurface transport which will degrade the beneficial uses of surface waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of the pollution is prohibited.

4. Containment and/or cleanup of polluted groundwater at one facility site shall not cause the spread of pollution in an adverse manner at an adjoining or otherwise affected site.

B. SPECIFICATIONS

1. The lateral and vertical extent of soil and groundwater pollution shall be defined.

2. The potential for private wells in the area of the pollution to act as conduits for the spread of the pollution shall be identified. Wells identified as actual or potential conduits shall be properly sealed or abandoned, to the extent legally possible.

3. The local and regional hydrogeologic conditions shall be defined in the areas of and contiguous to the known pollution.

4. Additional migration of groundwater pollutants from the plant site and related off-site areas of the plume(s) shall be prevented.

C. PROVISIONS

1. The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The discharger shall submit to the Board technical reports on self-monitoring work performed according to a program approved by the Board's Executive Officer.

3. In order to comply with Specification B.1., the discharger, to the extent responsible, shall meet the following compliance time schedule:

TASK	COMPLIANCE DATE
a. Define the extent of pollution in the next deeper aquifer system ("B" aquifer) below the polluted shallow aquifer system ("A" aquifer) in areas south of the Bayshore Freeway (Highway 101)	June 15, 1985
b. Define the extent of pollution in the next deeper aquifer system ("B" aquifer) below the polluted shallow aquifer system ("A" aquifer) in areas north of the Bayshore Freeway (Highway 101)	October 15, 1985
c. Determine if the groundwater is polluted in the next deeper aquifer system ("C" aquifer) below the polluted "B" aquifer system	June 15, 1985
d. If the "C" aquifer is polluted, define the extent of pollution	December 15, 1985
e. If the "C" aquifer system is polluted, determine if the groundwater is polluted in the next deeper aquifer system ("D" aquifer) below the "C" aquifer	August 15, 1985
f. Determine if the Hetch Hetchy aqueduct is providing a preferential pathway for pollution migration	June 15, 1985

4. In order to comply with Specification B.2., the discharger, to the extent responsible, shall meet the following compliance time schedule:

TASK	COMPLIANCE DATE
a. Identify private wells, to the extent feasible, in the vicinity of the site with potential to act as conduits for inter-aquifer cross- contamination	May 15, 1985
b. Locate and collect additional information on private wells identified in Provision 4.a. to assess if the wells may be potential conduits for inter-aquifer cross-contamination	June 15, 1985

c. Develop a program to respond to any potential conduits and submit a technical report with options for addressing closure, with priority given to conduits located within the defined extent of pollution to be developed under Provision 3.a. July 15, 1985

5. In order to comply with Specification B.3., the discharger, to the extent responsible, shall:

   a. Assess the influence, if any, the various pumping wells (in particular the municipal wells) in the area may have on the groundwater gradients in each affected aquifer zone.

   b. Determine the groundwater gradient(s) in each aquifer identified in the study area.

   c. Define the hydrogeologic properties and lateral continuity of the various aquifers and aquitards in the study area. The hydrogeologic properties of the aquifers and aquitards shall be characterized by conducting appropriate hydrologic tests (e.g. aquifer pump tests, permeability tests, and geophysical logging).

6. Documentation of compliance with Specifications 1 and 3, and Provisions 3 and 5 above shall include groundwater gradient contour maps, pollution concentration contour maps, and cross-sectional geologic maps. The spacing of the monitoring wells and/or borings shall be sufficiently close to reduce errors in interpretation between data points. This documentation shall be updated with each technical report submitted under this Order, as appropriate.

7. Based upon the findings reported under Provisions 3(a,c and f), 4, 5 and 6, submit a technical report which will assess the adequacy of the monitoring system to determine if the aquifer system utilized by the City of Mountain View is polluted. If the City's aquifer is not polluted or threatened, assess the need for a mechanism to serve as a warning system to detect possible future pollution. The technical report shall be submitted by July 15, 1985 and include a contingency plan for locating monitoring well(s) between the discharger's site and the City's municipal wells. The report shall also contain, as appropriate, the proposed well location, the rationale for the recommended location, details of well construction and monitoring, and a proposed time schedule for installation of the monitoring wells.

8. Interim containment of the pollution plume, to the extent responsible, shall commence in areas of known pollution as soon as practicable, but in any event shall not be delayed pending defining the full extent of pollution in any aquifer. The interim cleanup and containment plans for the "A" and "B" aquifers, including time schedules, shall be submitted by May 31, 1985.

9. The discharger shall submit detailed bi-monthly reports on its progress toward compliance with the Provisions specified in this Order, including specific actions taken and actions proposed prior to the next report.

10. All samples shall be analysed by State certified laboratories using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

11. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:

    a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept.

    b. Access to copy any records required to be kept under terms and conditions of this Order.

    c. Inspection of any monitoring equipment or methods required by this Order.

    d. Sampling of any groundwater or soil which is accessible, or may become accessible as part of any investigation or remedial action program, to the discharger.

12. The discharger shall maintain in good working order and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

13. The Board will review this Order periodically and may revise the requirements when necessary. Final cleanup limits shall be established by Board action once compliance with Specifications B.1, B.2, and B.3 are achieved.

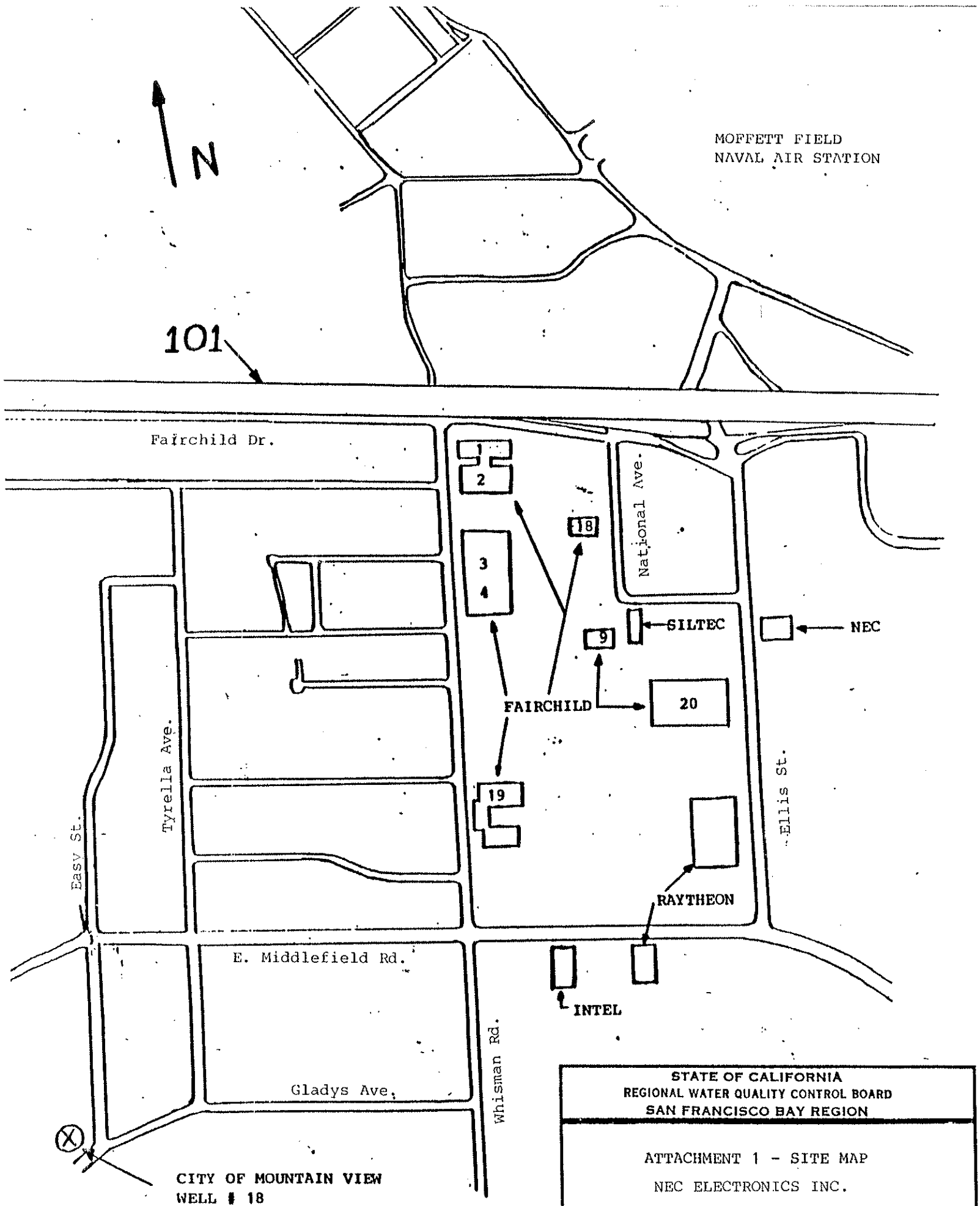
14. It is the intent of this Board in adopting this Waste Discharge Requirement to obtain an investigation defining the extent of pollution caused by this discharger and to develop a plan for cleanup of that pollution. It is further the Board's intent to consider the application of the provisions of the Carpenter-Presley-Tanner Act when the Remedial Action Plan is considered by this Regional Board.

I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 30, 1985.

ROGER B. JAMES
Executive Officer

Attachments:

1. Site Map



SCALE: 1 inch = 1/8 mile

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT 1 - SITE MAP

NEC ELECTRONICS INC.

MOUNTAIN VIEW, SANTA CLARA COUNTY

DRAWN BY: TJB	DATE: 4-18-85	DRWG. NO. 001